MINERALOGICAL ABSTRACTS

VOLUME 30

1979

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PUBLISHED JOINTLY BY

THE MINERALOGICAL SOCIETY OF GREAT BRITAIN AND THE MINERALOGICAL SOCIETY OF AMERICA

LONDON–1980

CONTENTS

Age determination	79-1, 1001, 1933, 3141
Apparatus and techniques	79-37, 1033, 1970, 3188
Book notices	79-68, 1055, 2005, 3230
Clay minerals	79-78, 1073, 2020, 3250
Crystal structure	79-128, 1097, 2087, 3329
Economic minerals and ore deposits	79-218, 1148, 2149, 3432
Environmental mineralogy	79-237, 1241, 2239, 3543
Experimental mineralogy	79-244, 1266, 2263, 3557
Gemstones	79-383, 1347, 2426, 3757
Geochemistry	79-408, 1368, 2444, 3777
Lunar and planetary studies	79-507, 1485, 2647, 3908
Meteorites and tektites	79-619, 1567, 2708, 3983
Mineral data	79-651, 1585, 2748, 4004
New minerals	79-761, 1644, 2873, 4111
Petrology	79-771, 1660, 2894, 4127
Physical properties of rocks and minerals	79-938, 1859, 3055, 4328
Topographical mineralogy	79-961, 1880, 3086, 4371
Various topics	79-983, 1904, 3124, 4389

Place-names are, in general, in the form used in the Columbia-Lippincott Gazetteer of the World (1952 edition); alternative forms are given on occasion.

Grateful thanks are due to those readers who have notified us of errors in volume 30 of *Mineralogical Abstracts*.

ORGANIZATION OF ABSRACTS

Arising from a decision taken at the meeting of the INTERNATIONAL MINERALOGICAL ASSOCIATION in Copenhagen in 1961 the Mineralogical Societies of America and Great Britain agreed to issue a joint statement to National Societies adhering to the Association inviting each Society to organize contributions of abstracts of papers published in the journals of its country on subjects relevant to *Mineralogical Abstracts*. This invitation was issued and has brought a gratifying response. Members of Societies which have agreed to co-operate in this way are entitled to receive *Mineralogical Abstracts* for their personal use at a reduced rate of subscription on application, *which must be made through their National Society*. The countries now co-operating include: AUSTRALIA, AUSTRIA, BELGIUM, BULGARIA, CANADA, CZECHOSLOVAKIA, DENMARK, EGYPT, FINLAND, GERMANY, INDIA, ISRAEL, ITALY, JAPAN, NETHERLANDS, NEW ZEALAND, NORWAY, PAKISTAN, PORTUGAL, SOUTH AFRICA, SPAIN, SWEDEN, SWITZERLAND. Individual mineralogists and petrologists in countries not represented in the Association, or not yet co-operating through their National Society, provide abstracts from the literature of ARGENTINA, BRAZIL, KENYA, and MEXICO.

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ERRATA

Mineralogical Abstracts, vol. 30

79-70[4]	*for* information *read* formation
79-286	*for* partioning *read* partitioning
79-596	*for* fraction *read* friction
79-638	*for* Esterville *read* Estherville
79-775	*for* uncomformity *read* unconformity
79-1035	*for* Embrey, P. J. *read* Embrey, P. G.
79-1143	*for* Clarke, A. M. *read* Clark, A. M.
79-1647	*for* Kropback *read* Kropbach
79-1653	*insert α before* 1·650
79-1654	*for* liandrite *read* liandratite
79-1739	*for* Mountings *read* Mountains
79-2530	*for* concentrations *read* concretions
79-3349(44)	*for* pierrottit *read* pierrotit
79-4004	*for* ultrafemic *read* ultramafic
79-4113	*for* burckhardite *read* burckhardtite

In various abstracts from Progr. Expt. Petr., N.E.R.C., **4**.
for 1979 *read* 1978

ABBREVIATIONS AND SYMBOLS

M.M. .. Mineralogical Magazine : M.A. .. Mineralogical Abstracts : A.M. .. American Mineralogist

CHEMICAL & PHYSICAL

CHEMICAL

atomic absorption spectroscopy	AAS
cation-exchange capacity	c.e.c.
chemical analysis	chem. anal.
concentrated	conc.
differential thermal analysis	DTA
dilute	dil.
disintegrations per minute	d.p.m.
equivalent U_3O_8	eU_3O_8
ethylenediaminetetra-acetic acid	EDTA
heat of formation (absolute temperature subscript)	ΔHt
hydrogen ion conc. acidity	pH
insoluble residue	insol. res
isotopes, e.g.	^{40}Ar, ^{40}K
loss on ignition	ign. loss
milliequivalent	me.
microgramme	μg
million-years	m.y.
neutron activation analysis	NAA
not determined	n.d.
not found	nt. fd.
not present	nil
parts per million	p.p.m.
rare earths	*TR* or *RE*
standard mean ocean water	SMOW
strength of solution, normal	*N*
— — — molar	*M*
substances in ionic state	
anions, e.g.	Cl^-, SO_4^{2-}
cations, e.g.	K^+, Fe^{3+}
thermogravimetric analysis	TGA
trace	tr.
X-ray fluorescence analysis	XRF

CRYSTALLOGRAPHIC & STRUCTURAL

Ångstrom unit (10^{-8} cm)	Å
crystal axes	*a*, *b*, *c*
— face indices	(hkl)
— form indices	{hkl}
— zone indices	[hkl]
indices of X-ray diffractions	hkl
intensity	*I*
— relative	I/I_0
interplanar spacing	*d*
mica structural polymorphs	$1M_1$, $2M_1$
Siegbahn units	kX
space group. These words are written in full	
unit cell, formula units	*Z*
— — repeat distances	*a*, *b*, *c*
— — reciprocal lattice lengths of edges	a^*, b^*, c^*
— — interaxial angles direct lattice	α^*, β^*, γ^*

OPTICAL

dispersion, e.g.	$r > v$
electron microscopy	EM
extinction angle, e.g.	$\gamma : c$
infrared	IR
optic axial angle	2V
— — plane	O.A.P.
refractive index, in text	refr. ind.
— — of isotropic mineral	*n*
refractive indices	
of uniaxial mineral	ω, ϵ
of biaxial mineral	α, β, γ
scanning electron microscopy	SEM
sign of biaxiality	
negative	$2V_\alpha$ or −
positive	$2V_\gamma$ or +
ultraviolet	UV

PHYSICAL

calculated	calc.
calorie	cal.
calorie, large	kcal.
cycles per second	c/s
degree centigrade	°C
density	*D* (quote units)
—, relative, e.g.	D_4^{20}
electron paramagnetic resonance	e.p.r.
gramme	g
hardness	H.
melting-point	m.p.
micron (10^{-4} cm)	μ
millimicron (10^{-7} cm)	mμ
nanometre (10^{-7} cm)	nm
natural remanent magnetization	n.r.m.
pounds per square inch	lb/in.^{2}
pressure	*P*
soluble	sol.
specific gravity, terms of reference not known	sp. gr.
temperature	*T*
Vickers hardness number	VHN
wavelengtn	λ

SYMBOLS

approximately equal to	$\sim$
equal to	$=$
equal to or greater than	$\geqslant$
equal to or less than	$\leqslant$
greater than	$>$
less than	$<$
not equal to	$\neq$
parallel to	$\parallel$
per cent	%
per mille	‰
perpendicular to	$\perp$
proportional to	$\propto$

ABBREVIATIONS USED IN REFERENCE TO PUBLICATIONS

Abhdl.	Abhandlungen
Abstr.	Abstract, -s
Abt.	Abteilung
Acad., Accad., Akad.	Academy, & *equiv.*
Adv.	Advancement
Agric.	Agricultur-al, -e
Anal.	Analy-st, -tical, &c.
Ann., An.	Annals, Anales, & *equiv.*
Anorg.	Anorganisch
Appl.	Applied
Arch.	Archives
Asoc., Assoc.	Association, & *equiv.*
Astron.	Astronomical
Bd.	Band
Beitr.	Beiträge
Ber.	Bericht-e
Berg.	Bergwesen
Bol., Boll., Bull.	Bulletin, & *equiv.*
Bur.	Bureau
Ceram.	Ceramic, & *equiv.*
Chem., Chim.	Chemi-cal, -stry, & *equiv.*
Cien,	Ciencia, -s
Circ.	Circular
Cl.	Classe
Com.	Comisión
Comm.	Commission
Conf.	Conference, & *equiv.*
Congr.	Congress, & *equiv.*
Contr.	Contributions
C.R.	Comptes Rendus
Crist., Cryst.	Crystallograph-ical, -y & *equiv.*
Dept.	Department, & *equiv.*
Diss.	Dissertation
Divn.	Division
Dokl.	Doklady = C.R.
Econ.	Economic
Educ.	Education
Eng.	Engineering
Exped.	Expedition
Exper.	Experimental
Expl.	Exploration
Fac.	Faculty
Fig(s).	Figure(s)
Fis.	Fisicale, fisico
Fören.	Föreningen
Förh.	Förhandlinger
Fortsch.	Fortschritt, -e
Gen.	General
Geol. géol.	Geolog-y, -ical, -ist, & *equiv.*
Gesell.	Gesellschaft
Geochem., chim.	Geochemi-cal, -stry, &c.
Geogr.	Geograph-y, -ical, &c.
Geophys., geofis.	Geophysic-al, -s, &c.
Govt.	Government
Hdbh.	Handbuch
Illustr.	Illustrat-ed, -ions
Imp.	Imperial
Industr.	Industr-ial, -y
Inform.	Information
Inst.	Institute, institution, & *equiv.*
Instr.	Instruments
Int.	Interior
Intern.	International
Invest.	Investigations
Issl.	Issledovaniye = investigation
Ist.	Istituto
Izd.	Izdanie = publication
Izvest.	Izvestiya
Jahresb.	Jahresbericht
Jahrb.	Jahrbuch
J.	Journal, & *equiv.*
Khim.	Khim-ie, &c.
Kl.	Klasse
Krist.	Kristallographie, &c.
Lab.	Laboratory
Lit.	Literary
Mag.	Magazine
Mat., Math.	Mathematical, & *equiv.*
Medd.	Meddelelser
Mem. Mém.	Memoir, -s, & *equiv.*
Metall.	Metallurg-ical, -y
Min.	Mineralog-ical, -ist, -y
Misc.	Miscellaneous
Mitt.	Mitteilungen
Mh.	Monatsheft
Mus., Muz.	Museum, & *equiv.*
Nac. Nat., Naz.	National, & *equiv.*
Natur.	Natur-al, -alist, & *equiv.*
Natur-w, -v.	Naturwissenschaft, & *equiv.*
Obraz.	Obrazovanie = education
Obshch.	Obshchestva = society
Petr.	Petrolog-ical, -y, & *equiv.*
Petrol.	Petroleum
Phil.	Philosophical, &c.
Photos.	Photographs
Photomicros.	Photomicrographs
Phys.	Physic-al, -s, & *equiv.*
Pl(s).	Plate(s)
Polytech.	Polytechnic, & *equiv.*
Pract., Prakt.	Practical, & *equiv.*
Proc.	Proceedings
Prof.	Professional
Prosp.	Prospecting
Publ.	Publication(s), published
Razv.	Razvedka = survey
Rec.	Record(s)
Ref.	References, referata
Rend.	Rendiconti
Repb.	Republic
Rept.	Report(s)
Res.	Research
Reserv.	Reserves
Resrcs.	Resources
Rdsch.	Rundschau
Rev.	Review
Roy.	Royal, & *equiv.*
Sborn.	Sbornik = magazine
Sch.	School, Schule
Sci.	Science
Sect.	Section
Sedim.	Sedimentary
Ser., sér.	Series, & *equiv.*
Serv.	Service
Sitzb.	Sitzungsbericht
Skr.	Skrift, -en, -er
Soc.	Society, & *equiv.*
Sondbd.	Sonderband
Spec., spez.	Special, & *equiv.*
Stand.	Standard(s)
Stn.	Station
Suppl.	Supplement
Surv.	Survey, -or
Symp.	Symposium
Tab(s).	Table(s), tabellen
Techn.	Technolog-ical, -y
Tid(s)kr.	Tid(s)krift, -en
Tijdschr.	Tijdschrift
Trab.	Trabajos
Trans.	Transactions
Transl.	Translat-ed, -ion
U.A.R.	United Arab Republic
Uch.	Uchennye = learned
Ucheb.	Uchebnyi = teaching
Unders.	Undersögelse, undersökning
Univ.	University, & *equiv.*
Verhdl.	Verhanglungen
Vidensk.	Videnshaps
Volc., Vulk.	Volcanolog-ical, -y, &c.
Vses.	Vsesoyuzni = All-Union
Vyssh.	Vysshikh = higher
Wiss.	Wissenschaft
Zap.	Zapiski = memoirs
Zav.	Zavodskaya = factory
Zaved.	Zavedenii = institution
Zhurn.	Zhurnal = journal
Z.	Zeitschrift, Zeitung, &c.